

We Claim:

- ✓ 1. A device for applying a herbicide or pesticide directly to a surface comprising:
- (a) reservoir means for containing a herbicide or pesticide compound therein;
 - (b) a herbicide or pesticide compound placed in the reservoir means;
 - (c) applicator means for applying a herbicide compound directly to unwanted vegetation when the reservoir contains a herbicide compound or for applying a pesticide to a surface to control or eliminate insects or other crawling pests when the reservoir contains a pesticide;
 - (d) delivery means for delivering the herbicide or pesticide compound from said reservoir to said applicator means; and
 - (e) safety cover means for selectively covering the delivery means.
2. The device of claim 1, wherein said reservoir means comprises a reservoir with a neck, wherein said safety cover means comprises a cover member with an inner surface and an outer surface and having a depressable tab portion, and wherein associated tab stop means is disposed on said reservoir for selective engagement with said depressable tap portion, said depressable tab portion being selectively depressable to free it from engagement with the tab stop means.
3. The device of claim 2, wherein said safety cover means further comprises a lug ring disposed about said reservoir neck and a plurality of annular lugs provided on the inner surface of the cover member for engagement with the annular lug ring.

002101-65468950

4. The device of claim 1, wherein said applicator means comprises a brush adapted to receive a flow of herbicide therethrough.

5. The device of claim 1, wherein said applicator means comprises an aperture.

6. The device of claim 1, wherein said delivery means includes means for sealingly containing the herbicide or pesticide compound within the reservoir means.

7. The device of claim 6, wherein said reservoir means comprises a reservoir having a neck, wherein said means for sealingly containing the herbicide compound comprises a first threaded portion disposed on said delivery means and a first matingly associated threaded portion disposed on said neck for sealingly connecting said delivery means and said reservoir, and a second threaded portion disposed on said delivery means and a second matingly associated threaded portion disposed on said neck for sealingly connecting said safety cover means and said reservoir .

8. The device of claim 7, wherein said reservoir neck is wider where said first matingly associated threaded portion is disposed and is narrower where said second matingly associated threaded portion is disposed.

9. The device of claim 1, wherein said delivery means comprises a valve unit with an opening therein to permit the passage of herbicide or pesticide compound therethrough.

002101" 65468950

10. The device of claim 3, wherein said delivery means comprises a valve unit having a valve stem and a twist valve which is rotatable relative to said valve stem and carries said applicator means, said twist valve having a range of positions arrived by rotating the twist valve relative to said valve stem to regulate the amount of flow of herbicide or pesticide compound from the reservoir.

11. The device of claim 2, further comprising gasket means between said delivery means and said reservoir means.

12. The device of claim 10, further comprising gasket means between said valve stem and said reservoir, wherein said neck has an inner surface and an outer surface, and wherein said gasket means comprises an annular flange provided on said valve stem and disposed for engagement with the inner surface of said reservoir neck.

13. The device of claim 10, wherein said valve stem has passage means therein.

14. The device of claim 13, wherein said passage means comprises a plurality of openings provided at one end of said valve stem.

15. The device of claim 10, wherein said valve unit has seal means for sealing the valve stem and twist valve.

002101 15468960

16. The device of claim 15, wherein said valve seal means comprises an annularly disposed sealing flange provided on the valve stem, a first annular rim provided on the inner surface of the twist valve, and a second annular rim provided on the inner surface of the twist valve and spaced apart from said first annular rim, wherein said twist valve is rotatable mounted on said valve stem for vertical displacement over a predetermined range when said twist valve is rotated, where the annularly disposed sealing flange engages the first annular rim at one end of said range, and wherein said annularly disposed sealing flange engages the second annular rim at the other end of said range.

17. The device of claim 9, wherein said valve unit has valve closure means for closing off the flow of herbicide or pesticide from the reservoir.

18. The device of claim 17, wherein said valve closure means comprises a flow-blocking flange disposed on the inner surface of said twist valve and having an aperture therein.

19. The device of claim 18, wherein said valve stem has a tip configured for selective insertion of said tip through said aperture of the flow-blocking flange such that the flow blocking flange is movable in relation to said tip from a closed position where the tip is inserted through the aperture, to an opened position where the tip is clear of said aperture, there being a range of positions between said open position and said closed position wherein the partial blocking of said aperture by said tip occurs, the flow from said reservoir

0022107-65468960

to said applicator means being regulated by the relative position of said valve stem tip and said flow-blocking flange

20. The device of claim 1, further comprising ratchet means for securing the delivery means to said reservoir means to prevent removal of said delivery means from said reservoir means.

21. The device of claim 10, further comprising a plurality of teeth disposed about said reservoir neck and a plurality of matingly associated ratchet teeth disposed on said valve stem.

22. A method for eliminating unwanted vegetation growth when a herbicide is used or for eliminating or controlling crawling pests such as insects when a pesticide is used, comprising the steps of: (a) providing a compound comprising a herbicide or pesticide compound in a reservoir; (b) selectively delivering the herbicide or pesticide compound from the reservoir to an applicator; (c) directly contacting a surface with the applicator; and (d) regulating the flow of said herbicide or pesticide delivered by said applicator to the surface, wherein the step of directly contacting a surface comprises contacting unwanted vegetation when a herbicide is provided in the reservoir, and wherein the step of directly contacting a surface comprises contacting a surface which crawling pests such as insects can cross when a pesticide is provided in the reservoir.

Sub 1
23. The method of claim 22, wherein the step of providing a herbicide in a reservoir comprises providing an oil based herbicide.

24. The method of claim 22, further including the step of securing said herbicide or pesticide compound in said reservoir with safety cover means, wherein the step of securing includes placing said cover means on said reservoir and rotating said cover means past a predetermined stop to block reverse rotation of said cover means.

Sub 4
25. The method of claim 24, further including the step of opening said cover means by applying force to a portion of said cover means to enable positive rotation of said cover means to release it from the reservoir.

26. The method of claim 22, wherein the step of selectively delivering the herbicide from the reservoir to an applicator comprises squeezing the reservoir to force the herbicide or pesticide compound through a regulatable valve.

27. The method of claim 22, further comprising the step of removing from the applicator an overcap which selectively covers the applicator.

28. The method of claim 22, further including the step of securing said herbicide or pesticide compound in said reservoir with safety cover means, wherein the step of securing, includes placing said cover means on said

reservoir and rotating said cover means past a predetermined stop to block reverse rotation of said cover means.

29. The method of claim 28, further including the step of opening said cover means by applying force to a portion of said cover means to enable positive rotation of said cover means to release it from the reservoir.

30. The method of claim 22, wherein the step of selectively delivering the herbicide or pesticide compound from the reservoir to an applicator comprises squeezing the reservoir to force the herbicide or pesticide compound through a regulatable valve.

31. The device of claim 1, wherein said safety cover means further comprises a cover member having a rim with one or more interfering elements disposed on said rim, and wherein said reservoir means has lugs disposed thereon for engagement with said interfering elements when the cover member is installed on the container.

32. The device of claim 31, wherein said interfering elements are disposed on opposite circumferential sides of said rim, and wherein said lugs are disposed on said container proximate the neck of said container and being positioned circumferentially opposite to one another.

33. The device of claim 1, wherein said delivery means comprises a valve unit having a flange which is adapted for press fit connection of said valve unit with said reservoir means to connect said valve unit with said reservoir means.

34. The device of claim 1, wherein said valve unit comprises a twist

060943Z JAN 78

36. \ A device for applying herbicides and/or pesticides to a surface.

38. The device of claim 36, wherein the device is so constructed as to deliver the herbicide or pesticide directly to a surface, without aerial application or dissemination of the herbicide or pesticide.

40. The device of claim 39, wherein the applicator/closure has the ability to selectively contain the herbicide and/or pesticide within the reservoir, and so to dispense same from same.

42. The device of claim 41, wherein, in the preferred embodiment,

A:\Tofani\e1902\appln

unit with a series of internal threads which engage upon a complementary series of threads which are an integral part of an internally conductive valve stem upon which the twist valve is mounted, this valve stem comprising the closure of the reservoir, in such a manner as that when the twist valve is rotated into a certain position relative to the valve stem (i.e. "closed") the spatial relationship between the twist valve and the valve stem forms a physical barrier which prevents the escape of the herbicide or pesticide from the reservoir, while this same twist valve, when rotated into an alternate position relative to the valve stem (i.e. "open") will allow the contents of the reservoir to flow out of the reservoir through a path defined by the structure of the valve mechanism and the applicator tip.

43. The device of claim 41, wherein the valve mechanism has the ability to selectively modulate the rate of flow of the contents of the reservoir by altering the physical relationship between the twist valve and the valve stem in such a manner as that the internal aperture through which the contents may flow may either increase or decrease in size, so that the operator may increase or decrease the said rate of flow in a discretionary manner.

44. The device of claim 41, wherein the dispensing orifice of the valve mechanism comprises an applicator tip which has the ability to conduct a herbicide or pesticide through or over its structure and onto a surface when the valve mechanism is opened and said applicator tip is brought into contact with

said surface.

45. The device of claim 44, wherein, in the preferred embodiment, the applicator tip takes the form of a brush with bristles or filaments, which are secured within a ferrule that has an orifice in its structure for allowing the flow of materials through the ferrule for dispensation by the bristles or filaments.

46. The device of claim 41, wherein, in an alternate embodiment, the applicator mechanism is comprised of an internally conductive pull-push valve, which is constructed to permit its vertical motion upon an internally conductive valve stem, which comprises the closure of the reservoir; said pull-push valve having such capabilities and features as those described in claims 40, 41, and 43, and also having such a dispensing applicator tip as described in claims 44 and 45, and having in the interior of its dispensing orifice a valve seal which interacts with a valve plug which is located at the exterior of the dispensing orifice of the valve stem in such a manner as that when the pull-push valve is placed into its lowest position in relationship to the valve stem (i.e. "closed") the valve plug acts to obstruct the flow of said materials through the valve seal, whereupon when the pull-push valve is placed into a higher position relative to the valve stem (i.e. "open") the spatial relationship between the pull-push valve and the valve stem will permit the flow of said materials out of the reservoir

002101 6548960

through a path defined by the structure of the valve mechanism and the applicator tip.

47. The device of claim 36, wherein the applicator/closure section is enclosed by an overcap so constructed as to resist its removal by a child.

48. The device of claim 47, wherein, in the preferred embodiment, The child-resistant overcap takes the form of an inner annular enclosing section bearing upon the interior surface of its lower aspect a series of threads which engage upon a complementary series of threads which are an integral part of the neck portion of the reservoir, the clockwise and counter-clockwise motion of said threaded portion of the overcap upon said neck threads allowing for the respective closure and removal of said overcap; and which also has an outer annular deflectable lug skirt section which carries at opposing points upon the underside of its bottom edge 2 lugs which engage against a complementary set of 2 lug stops which are an integral part of the neck portion of the reservoir, said lug stops acting to prevent removal of the overcap by a child by obstructing the path of the overcap lugs when the overcap is subjected to counter-clockwise motion for removal without the concurrent action of applying an internally-directed pressure or squeezing action upon said annular deflectable lug skirt on opposing sides of said lug skirt at points which are

0022107 155458960

situated at a 90° angle from the lugs, said squeezing action at said points causing the deflectable lug skirt to assume an ovoid profile in such a manner as that the apexes of said ovoid profile of the deflectable lug skirt shall form at the points which carry the lugs on the underside of the bottom edge, this action causing said lugs to extend outward to a position beyond the area of obstruction of the counter-clockwise travel path of said lugs created by the presence of the lug stops on the neck, and thereby allowing for the removal of the overcap; the simultaneous execution of both the counter-clockwise rotation of the overcap and the squeezing action of the deflectable lug skirt being established as exceeding the capabilities of a child of an age determined to be unsuitable for safe operation of a product of this type.

002707-6548960

add
32